

3.2 Medical Requirements Overview**TABLE 3.2: MEDICAL REQUIREMENTS OVERVIEW**

MRID# and Title:	MR013S Audiometry for Shuttle Crews
Sponsor:	Medical Operations
IPT:	N/A
Category:	Medical Requirements (MR)
References:	Medical Operations Requirements Document (MORD) for Shuttle, JSC 13956 Astronaut Medical Evaluation Requirements Document (AMERD), JSC 2834
Purpose/Objectives:	To assess hearing of short-duration crewmembers, pre- and postflight, and detect any changes in hearing sensitivity.
Measurement Parameters:	Hearing thresholds at specified frequencies
Deliverables:	Audiometry report - reviewed by Audiologist and Crew Surgeon
Flight Duration:	< 30 days (short duration)
Number of Flights:	All
Number and Type of Crew Members Required:	All U.S. short-duration prime crew required
Other Flight Characteristics:	N/A

3.3 Preflight Training – No Training**3.4 Preflight Activities****TABLE 3.4: PREFLIGHT ACTIVITIES**

Preflight Activity	Description:	Crewmember’s hearing will be tested using audiometry on L-10. This hearing test will be part of the pre-flight physical exam, (MR009S).			
	Schedule:	Duration:	Schedule:	Flexibility:	Personnel Required:
		Audiogram: 15 minutes	L-10 days	+/- 2 days	Audiologist or Medical technician, Crewmember
Ground Support Requirements Hardware/Software	Preflight Hardware:	Preflight Software:		Test Location:	
	Soundproof hearing chamber Audiometry equipment Note: Hardware provided by JSC Clinic	Audiometry software provided by JSC Clinic		U.S./JSC Clinic	
Testing Facilities	Minimum Room Dimensions:	Number of Electrical Outlets:		Temperature Requirements:	Special Lighting:
	4 ft. X 5 ft.	2		Normal range	N/A
	Hot or Cold Running Water:	Privacy Requirements:		Vibration/Acoustic Isolation:	Other:
	N/A	A sound-proof booth is provided by the JSC Clinic		Acoustic isolation is necessary	N/A
Constraints/Special Requirements:	NA				
Launch Delay Requirements:	N/A				
Notes:	When possible, this test will be combined with MR009S (Pre- and Postflight Physical Exam for Short Duration Crews) on L-10 days				
Data Delivery	Data/Report to Designated Recipients (Nominal/Contingency):				
	Results from the audiometry will be included in the crewmember’s medical report and electronic medical record.				

3.5 In-Flight Activities – NO INFLIGHT ACTIVITIES

3.6 Postflight Activities

TABLE 3.6: POSTFLIGHT ACTIVITIES

Postflight Activity	Description:	Crewmember’s hearing will be tested using an audiogram at R+3 days. This test is combined with the postflight physical exam on the same day (MR009S).			
	Schedule:	Duration:	Schedule:	Flexibility:	Personnel Required:
		Audiogram: 20 minutes	R+3 days	N/A	Audiologist or Medical technician crewmember
Ground Support Requirements Hardware/Software	Postflight Hardware:		Postflight Software:	Test Location:	
	Soundproof hearing chamber Audiometry equipment Note: Hardware provided by JSC Clinic		Audiometry software provided by JSC Clinic	U.S./JSC Clinic	
Testing Facilities	Minimum Room Dimensions:	Number of Electrical Outlets:		Temperature Requirements:	Special Lighting:
	Approximately 4 ft. X 5 ft.	2		Normal range	N/A
	Hot or Cold Running Water:	Privacy Requirements:		Vibration/Acoustic Isolation:	Other:
	N/A	A sound-proof booth is provided by the JSC Clinic		Acoustic isolation is necessary	N/A
Constraints/Special Requirements:	N/A				
Early Destow / Early Return:	N/A				
Notes:	This test is coordinated with the post-flight physical exam (MR009S) on R+3 days.				
Data Delivery	Data/Report to Designated Recipients (Nominal/Contingency):				
	Results from the audiometry will be included in the crewmember’s medical report and electronic medical record.				

3.7 Summary Schedule**TABLE 3.7: SUMMARY SCHEDULE**

ACTIVITY	DURATION	SCHEDULE	FLEXIBILITY	BLOOD VOLUME	PERSONNEL REQUIRED	CONSTRAINTS
Preflight Training – N/A						
Preflight						
Audiometry	15 minutes	L-10 days	+/- 2 days	N/A	Audiologist or Medical technician, crewmember	NA
In-Flight – N/A						
Postflight						
Audiometry	20 minutes	R+3 days	N/A	N/A	Audiologist or Medical technician, crewmember	N/A
Postflight Debrief – N/A						